David Bilsker (Bar No. 152383)
davidbilsker@quinnemanuel.com
David A. Perlson (Bar No. 209502)
davidperlson@quinnemanuel.com
QUINN EMANUEL URQUHART & SULLIVAN, LLP
50 California Street, 22nd Floor
San Francisco, CA 94111
(415) 875-6600 Tel.
(415) 875-6700 Fax

Anne S. Toker (admitted *pro hac vice*)
annetoker@quinnemanuel.com
Robert B. Wilson (admitted *pro hac vice*)
robertwilson@quinnemanuel.com
QUINN EMANUEL URQUHART & SULLIVAN, LLP
51 Madison Avenue, 22nd Floor
New York, NY 10010
(212) 849-7000 Tel.
(212) 849-7100 Fax

Andrew Bramhall (Bar No. 253115)
andrewbramhall@quinnemanuel.com
QUINN EMANUEL URQUHART & SULLIVAN, LLP
555 Twin Dolphin Drive, 5th Floor
Redwood Shores, CA 94065
(650) 801-5000 Tel.
(650) 801-5100 Fax

Derek L. Shaffer (admitted *pro hac vice*)
derekshaffer@quinnemanuel.com
QUINN EMANUEL URQUHART & SULLIVAN, LLP
1300 I Street NW, Suite 900
Washington, D.C. 20005
(202) 538-8000 Tel.
(202) 538-8100 Fax

Attorneys for Defendants

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
SAN FRANCISCO DIVISION

ILLUMINA, INC. and ILLUMINA CAMBRIDGE LTD.,

Plaintiffs,

v.

BGI GENOMICS CO., LTD., BGI AMERICAS CORP., MGI TECH CO., LTD., MGI AMERICAS INC., and COMPLETE GENOMICS INC.,

Defendants.

Case Nos. 3:19-cv-03770-WHO
3:20-cv-01465-WHO

DEFENDANTS' OPPOSITION TO ILLUMINA'S MOTION FOR ENTRY OF A PERMANENT INJUNCTION

Date: March 2, 2022
Time: 2:00 PM
Judge: The Hon. William H. Orrick

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STATEMENT OF FACTS

At trial the jury returned a verdict that '444 claim 3 and '025 claim 1 were obvious, and the remaining claims were not. *See* Dkt. 594 at 8-12.[1] The jury also found that Defendants induced infringement of some but not all of the asserted claims, and contributed to the infringement of the '973 claims, that Defendants' infringement was willful, and awarded damages in the amount of $8,000,000. *Id.* at 2-7, 13. Before trial, the Court found that CoolMPS did not infringe the '025 claims. Dkt. 469. Illumina subsequently moved for entry of a permanent injunction. Dkt. 627.

LEGAL STANDARD

Illumina must demonstrate: "(1) that it has suffered an irreparable injury; (2) that remedies available at law, such as monetary damages, are inadequate to compensate for that injury; (3) that, considering the balance of hardships between the plaintiff and defendant, a remedy in equity is warranted; and (4) that the public interest would not be disserved by a permanent injunction." *eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388, 391, 126 S. Ct. 1837, 1839, 164 L. Ed. 2d 641 (2006). Illumina must establish a "sufficiently strong causal nexus" between any alleged irreparable harm and the alleged infringement. *Apple Inc. v. Samsung Elecs. Co.*, 695 F.3d 1370, 1374 (Fed. Cir. 2012) ("*Apple II*").

ARGUMENT

I. ILLUMINA HAS FAILED TO MEET ITS BURDEN OF PROVING IT WILL BE IRREPARABLY INJURED ABSENT AN INJUNCTION

A. The NGS Market is a Multi-Player Market

Illumina's argument that it will be irreparably harmed in the NGS market is based on the faulty premise that it faces no competition in the market other than from CGI. Dkt. 627 at 3. At least three other companies—PacBio, Oxford Nanopore, and Thermo Fisher—are manufacturing and selling next generation sequencing ("NGS") systems in the United States. Dkt. 58-17 (FTC Complaint) ¶¶ 34, 47-48. Singular Genomics has recently launched products in the U.S. NGS market as well. Metzker Decl. Exs. 19-20. Illumina's Chief Commercial Officer Susan Tousi testified at trial that the NGS market is a "market with [] lots of competition." Tr. at 259:19-22.

While Illumina relies on this Court's finding at the preliminary injunction phase that "sales to BGI would almost certainly translate into lost revenue for Illumina," Dkt. 627 at 3, the evidence at trial showed that any revenue that would be lost to CGI, as opposed to the multiple other players in the market, would not be irreparable. Courts often find no irreparable harm when, as here, there are multiple market competitors. *See, e.g.*, *EcoServices, LLC v. Certified Aviation Servs., LLC*, 340 F. Supp. 3d 1004, 1024 (C.D. Cal. 2018), *aff'd in part, vacated in part on other grounds, remanded*, 830 F. App'x 634 (Fed. Cir. 2020); *Apple, Inc. v. Samsung Elecs. Co.*, 678 F.3d 1314, 1324-25 (Fed. Cir. 2012); *Belden Techs. Inc. v. Superior Essex Commc'ns LP*, 802 F. Supp. 2d 555, 577 (D. Del. 2011). While Illumina may argue that Illumina and CGI are the only "direct competitors," that is not the case. For example, Oxford Nanopore recently introduced a new technology that will directly compete with Illumina in short read high throughput sequencing. Metzker Decl. ¶ 78-79; Metzker Ex. 22 (introducing "Short fragment mode" (SFM), to optimise accurate, high-throughput sequencing of shorter fragments as short as 20 bp, will be fully enabled in the new year."). With its recently launched platform, "Singular Genomics is planning to take Illumina head-on in the mid-throughput benchtop sequencing market." Metzker Ex. 20; *see also* Metzker Decl. ¶¶ 76-77, 79. Moreover, simply being a "direct competitor" does not mean that irreparable harm will ensue. *Standard Innovation Corp. v. Lelo (Shanghai) Trading Co.*, No. 15-CV-04858-BLF, 2015 WL 6828317, at *3 (N.D. Cal. Nov. 6, 2015) (status as a direct competitor, on its own, is not enough to show irreparable harm). If CGI were to join this multi-player market, any infringement would not necessarily impact Illumina's market position, and this factor therefore weighs against entry of an injunction.

B. There is No Evidence of Lost Market Share, Lost Sales, or Price Erosion

Illumina only speculates about lost market share, lost sales, and price erosion. Illumina's reference to the Court's preliminary injunction ruling stating that Illumina might suffer lost revenue is not evidence and does not satisfy Illumina's burden of proof. *Ctr. for Biological Diversity v. Salazar*, 706 F.3d 1085, 1090 (9th Cir. 2013). Even though Illumina has been

[1] All citations to the docket herein refer to Case No. 3:19-cv-1465-WHO unless otherwise noted.

provided with ample opportunity to come forward with actual evidence to support either lost sales or price erosion, it has not.

Further, the Court's finding on the likelihood of lost sales to Illumina was made in the context of its finding—over 18 months ago in June 2020—that "BGI's commercial expansion into the United States would create essentially a two-player market." Case No. 3:19-cv-3770, Dkt. 185 at 18. The market has changed over the last 18 months. Existing players such as Oxford Nanopore have expanded their product offerings in the mid- and high-throughput segment of the market. Metzker Decl. ¶ 78-79; Metzker Exs. 21-22 . Furthermore, a new entrant, Singular Genomics, now competes in this segment. Metzker Decl. ¶¶ 76-77, 79; Metzker Exs. 19-20. Even if one were to consider that Illumina faces no competition other than from CGI, that still would not support a conclusion that it will suffer lost sales, market share or price erosion. Illumina's own data shows that not to be the case.

The market in which CGI is the strongest is China. Kearl Decl. ¶ 7. Yet, Ms. Tousi, Illumina's Chief Commercial Officer, testified that Illumina has had a lot of success in the China market, particularly with penetrating hospitals and clinical applications. Tr. at 261:16-21. She stated that Illumina has penetrated the top 400 hospitals in China. Tr. 269:7-8. In fact, Illumina has been so successful in its head-to-head competition with CGI in China that its business has actually grown 50 percent year over year. Tr. at 269:3-10. Thus, Ms. Tousi's bare conclusion that CGI's entry into the U.S. market would "really destroy our market" (Tr. at 260:6-13; 251:25-253:10) contradicts the facts. There is no reason to believe Illumina would be in a worse position in the United States, where CGI will be a new entrant and is nowhere near as strong a competitor as it is in China, where Illumina is expanding its market. Kearl Decl. ¶ 21.

"[C]ase law is clear that the ***potential*** for loss of market share is insufficient" to prove irreparable harm. *Open Text, S.A. v. Box, Inc.*, 36 F. Supp. 3d 885, 906 (N.D. Cal. 2014).[2] Here, despite the fact that there are large markets in which Illumina and Defendants directly compete (e.g., China), as in *Open Text*, Illumina has not provided the Court with any evidence of sales that

[2] Emphasis is added throughout unless otherwise noted.

have been or will be lost to Defendants. *Id.* Likewise, Illumina has not provided the Court with up-to-date details regarding Illumina's market share in the relevant market in the United States. *Id.* The only specific evidence that Illumina points to is two customers that Illumina lost to Defendants outside the U.S. for the purchase of a sequencer and delivery of sequencing services, respectively. Case No. 3:19-cv-3770 Dkt. 86, Van Oene Decl. ¶57.[3] Illumina has not provided any evidence of the magnitude of expected lost sales if Defendants were to enter the U.S. market prior to the expiration of the '973 patent, but based on Defendants' experience launching [redacted] Dkt. 59-8, Rodgers Decl. ¶¶ 8-10. Even assuming that Illumina will lose a handful of U.S. sales to Defendants—which Illumina has not shown—these lost sales would pale in comparison to Illumina's 2020 revenue from sequencing products of $2.5 billion. Kearl Ex. 2 (Illumina 2020 10-K) at 60; Kearl Decl. ¶¶ 10, 21.

Illumina goes on to argue that "BGI's infringement has also resulted in price erosion, which, without a permanent injunction, would inevitably occur in the U.S." Dkt. 627 at 5, citing Van Oene Decl. ¶¶ 62-66. But Illumina offers no evidence that it intends to lower its prices as a result of Defendants' U.S. activities, and no evidence to support its claims of price erosion and lowering of prices beyond Mr. Van Oene's bare statements that Illumina has had to offer lower prices in China to compete with Defendants. Case No. 3:19-cv-3770 Dkt. 86, Van Oene Decl. ¶ 63; *see also* Kearl Decl. ¶¶ 18-22. With respect to sequencing reagents, potential sales by Defendants would have little to no impact on Illumina's pricing as a result of Illumina's practice of using long-term supply agreements for consumables. Dkt. 59-19 at 201:9-204:20.

Furthermore, as discussed below, there is no reason why any impact on Illumina's pricing from competition with Defendants cannot be estimated and monetized using evidence of

[3] Illumina did not show that these sequencers were not ones that any of the other market players could also not have provided.

Illumina's prices in regions where it competes with Defendants. *See* Kearl Decl. ¶¶ 14-17.[4] Harm in the form of lost sales or lowered prices are classic examples of quantifiable harm compensable by money damages. *Cave Consulting Grp., LLC v. Optuminsight, Inc.*, No. 5:11-CV-00469-EJD, 2016 WL 4658979, at *21 (N.D. Cal. Sept. 7, 2016). Illumina has therefore "failed to show that money damages would be inadequate to compensate" for infringement. *Id.; see also eBay*, 547 U.S. at 391 (burden is on the patentee to demonstrate "that remedies available at law, such as monetary damages, are inadequate to compensate for [infringement]").

C. No Evidence of Reputational Harm to Illumina

To the extent that CGI is using the patented technology in superior products, such use would not harm Illumina's reputation. *Power Integrations, Inc. v. Fairchild Semiconductor Int'l, Inc.*, No. C 09-5235 MMC, 2015 WL 604582, at *5 (N.D. Cal. Feb. 12, 2015). Illumina cites to *Dynamics, LLC v. Buyers Products Co.*, 717 F.3d 1336 (Fed. Cir. 2013), to support its claim that its "reputation as an innovator in the sequencing market . . . would be irreparably harmed by BGI's infringing commercial use of the azido technology." Dkt. 627 at 6. But this case is unlike *Douglas Dynamics*. There, the patentee offered the premium product, while the infringer's snowplow was akin to a standard model. 717 F.3d at 1344. The Federal Circuit noted that the patentee's "reputation as an innovator [would] certainly be damaged if customers found the same 'innovations' appearing in competitors' snowplows, particularly products considered less prestigious and innovative." *Id*. at 1344-45.

Here, Illumina makes no claim that CGI's products are considered "less prestigious and innovative." Instead, Illumina again relies on unsubstantiated generalized statements from Ms. Tousi that CGI's infringement would result in customer confusion. Dkt. 627 at 6, citing Tr. 252:9-12 In fact, what the evidence shows is that the purchasers and users of the sequencing machines and reagents used on them are sophisticated consumers, many of whom have advanced degrees. For example, as detailed in Dr. Metzker's declaration, recent peer reviewed articles by professors

[4] Dr. Kearl's declaration is unrebutted. While Illumina did serve an expert report containing opinions on injunctive relief, the fact that it has not relied on this opinions in its motion for a (footnote continued)

at universities compare the performance of Illumina and CGI's products. Metzker Decl. ¶¶ 8-35. Defendants' products use a different methodology to create the material to be sequenced. Defendants products produce many fewer errors than Illumina's do. Thus, it is actually Defendants who are the innovators and its products are more prestigious than Illumina's. Moreover, competition between Defendants and Illumina outside the United States has not impacted Illumina's brand or reputation, so Illumina's claim of reputational harm in the U.S. rings hollow. Kearl Decl. ¶¶ 9, 10, 21.

D. Licensing of Illumina's Patents

Illumina argues that it will be irreparably harmed "because it does not and has never licensed out its core sequencing technology, much less, to a direct competitor." Dkt. 627 at 7. Even if this were true, courts have found a lack of irreparable harm even where the patentee was unwilling to license its patented technology where, as here, the patentee "failed to make the requisite showing as to a causal nexus between its alleged lost sales and the infringing feature" and failed to show any reputational harm. *Power Integrations, Inc. v. Fairchild Semiconductor Int'l, Inc.*, No. C 09-5235 MMC, 2015 WL 604582, at *4 (N.D. Cal. Feb. 12, 2015); *Texas Advanced Optoelectronic Sols., Inc. v. Renesas Elecs. Am. Inc.*, No. 4:08-CV-00451, 2019 WL 4805916, at *4-5 (E.D. Tex. Oct. 1, 2019) (finding no causal nexus and noting that "[a] patentee's decision not to license its technology is relevant to the analysis, but it is not dispositive.")

E. No Causal Nexus Between Any Alleged Harm and Defendants' Infringement

A patentee must show a "sufficiently strong causal nexus" between any alleged irreparable harm and the alleged infringement. *Apple II*, 695 F.3d at 1374. Here, Illumina has not established a causal nexus between any alleged harm and Defendants' accused products. Instead, Illumina claims, with no legal or factual citation, that the test for causal nexus "is normally at issue for multi-function products, where any particular patented feature may have little to do with consumer purchase decisions." Dkt. 627 at 7. Here, that is the case. As CGI demonstrated in its opposition to Illumina's JMOL on validity, the commercial success of its products cannot be tied to the

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permanent injunction shows its lack of merit.

patented features. *See* Dkt. 640 § I.B.1. For example, Illumina's sequencing platform using an azidomethyl block was a total failure and did not become viable until it purchased the cluster technology from Manteia. Tr. 917:7-10, 917:15, 918:19-919:5; *see also* Dkt. 571-14 *(Barnes) at 129:12-19, 131:24-132:6, 133:23-134:1, 134:3-7, 134:9-12, 136:6-14, 219:4-6, 219:8, 219:16-19, 219:21-22, 253:15-19, 253:21-254:1, 254:3-14*. Inventor Barnes identified other patents aside from the 3'-*O* azidomethyl blocked nucleotides claimed in the asserted patents that drive demand, such as appropriate dyes and laser hardware. *Id.* at *140:25-141:6, 252:1-3, 252:5-7*. Illumina's representations in other patents support Dr. Barnes's testimony that other parts of the Illumina system are important to its success. *See, e.g.*, Naravage Decl. Ex. 1, U.S. Patent No. 9,453,258 col. 2:5-11, 2:33 (noting that a method which uses less than four colors to identify the bases "would provide investigators more efficient tools in terms of time efficiency, lower reagent usage, smaller less expensive instrumentations, and the like"). The majority of the systems Illumina offers now employ this two color/channel technology. *See* Naravage Decl. Ex. 2, Fellis Depo Tr. at 67:14-24; 73:17-24; *see also* "Illumina Sequencing Platforms" https://www.illumina.com/systems/sequencing-platforms.html (four of six featured sequencers employ two color technology). First named inventor Dr. John Milton confirmed the relative unimportance of azidomethyl when he did not even identify the use of azidomethyl at Illumina as an accomplishment worthy of note. Dkt. 571-17 *(Milton) at 106:5-7, 106:10-21*.

What all the evidence shows is that Illumina did not and cannot establish, as it must, that the infringing feature drives consumer demand for the accused products. *Apple II,* 695 F.3d at 1375 ("The patentee must [] show that the infringing feature drives consumer demand for the accused product"). At best, Illumina points to testimony from Ms. Tousi that Illumina has lowered the cost of DNA sequencing since 2012,[5] and speculation from Dr. Smith that Illumina's patented azido technology contributed to Illumina's improvements in its DNA sequencing technology. Dkt. 627 at 8. Speculation and vague testimony about the cost of sequencing do not

establish that azidomethyl blocking technology drives consumer demand for Defendants' products. Dr. Smith testified that prior to his involvement in the case he was unaware of the structure of Illumina's blocking group, referring to it as a "black box." Dkt. 75-10, Smith Tr. at 24:15-25:23. Further, he testified that "[m]ost consumers would ignore everything in the black box" and only care about the quality of the sequence produced by the instrument. *Id*. at 110:15-111:3. Customers are at best agnostic as to the structure of the blocking group used.

Furthermore, as detailed below in Section IV, Defendants' CoolMPS products—the only products Defendants plan to introduce to the U.S. market—incorporate multiple different, superior features to Illumina's SBS products. Metzker Decl. ¶¶ 8-35. Illumina provides no evidence that customers will buy CoolMPS because of azidomethyl blocking technology as opposed to these other features that are unique to Defendants' products. It is these unique features that will drive demand for Defendants' product. Absent a showing that any purported harm is caused by Defendants' alleged infringement, the irreparable harm factor weighs against an injunction. *Id.*

II. MONETARY DAMAGES ARE ADEQUATE TO COMPENSATE FOR ANY HARM TO ILLUMINA

Illumina claims, without any evidence, that CGI's "infringement directly impacts Illumina's market share" and that "[d]amages will not compensate a patent holder for the loss of market share such as that threatened here." Dkt. 627 at 9. Illumina only relies on the Court's preliminary injunction Order, which is neither evidence nor law of the case. Moreover, as discussed previously, the market has evolved over the last 18 months and at least two more companies, Oxford Nanopore and Singular, are offering new technologies and products in the mid- to high-throughput segment of the NGS market in addition to the products many others such as PacBio and Thermo Fisher offer in the NGS space. Metzker Decl. ¶¶ 76-79; Metzker Exs. 19-22. Moreover, as previously discussed, Illumina is significantly growing its business even in China, where it competes with CGI at its strongest. Illumina had the opportunity to introduce

[5] Ms. Tousi's testimony that the cost of DNA sequencing was "more than $100,000" in 2012 is inconsistent with the demonstrative she was describing—an Illumina plot of "Flatley's Law" that shows the sequencing cost per genome was less than $10,000 in 2012. *See* Dkt. No. 627-3.

actual evidence that it has lost market share based on markets were it competes with CGI and its failure to do so is fatal to its claim. *See Regents of Univ. of California v. LTI Flexible Prod., Inc.*, No. 3:20-CV-08686-WHO, 2021 WL 4133869, at *9 (N.D. Cal. Sept. 10, 2021) ("Entirely new arguments raised for the first time in reply are improper" and deemed waived). Even if Illumina had presented the required evidence, "[l]ost customers or lowered prices, if proven to be true, are forms of quantifiable harm compensable by money damages." *Cave Consulting*, 2016 WL 4658979, at *21. Using Illumina sales data, there is no reason that a going-forward reasonable royalty could not be determined with reasonable precision. Kearl Decl.¶¶ 14-17. For example, profits-per-Illumina device and reagents sold in the U.S. and profits-per-Illumina device and reagents sold outside of the U.S. can be compared for contemporaneous sales made between 2014 and now and, in addition, changes in profits on U.S. and foreign sales over time can also be compared. As a consequence, the effects of competition with Defendants on Illumina benefits per device and reagent sold can be estimated and monetized. *Id.* Because harm caused by lost sales can be quantified, there cannot be irreparable harm from this aspect of Defendants' competition with Illumina.

Finally, Illumina argues that the "influence on market choice by KOLs is substantial and long-term, and is neither quantifiable, nor compensable by money damages." Dkt. 627 at 10. But it has no support for this.[6] Instead, Illumina cites Dr. Kearl's trial testimony (Tr. 995:13-14) where he was being questioned on his reasonable royalty damages opinions. In this context, Dr. Kearl simply testified that quantifying the commercial value of KOL relationships was "not relevant to the determination of [] a license for research." Tr. 996:24-997:3. In actuality, in the context of influence on market choice by KOLs, Dr. Kearl instead opines that Illumina has not made any economic arguments that clearly show that there would be adverse effects on Illumina were Defendants' to enter the market before August 2022. Kearl Decl. ¶ 22. Dr. Kearl also noted

[6] Illumina may argue that Dr. Drmanac's declaration from the preliminary injunction proceedings supports its position because Dr. Drmanac stated that researchers "will not take on new technology until scientists from the United States give it a stamp of approval." Dkt. No. 95-3 ¶ 24. But adoption and sales in other countries is not compensable under U.S. patent laws.

that since Illumina has operated in the U.S. market free of competition from Defendants for years, any first mover advantages with regard to KOLs or customer relationships are likely to have been fully exploited. *Id.* ¶¶ 8-11. There is no reason that a change in the competitive landscape in the U.S. market approximately six months before when it would have occurred anyway would have any material effect on Illumina's reputation or relationships with KOLs. *Id.*

The only possible adverse effect of competition that Illumina has identified is an unsubstantiated but potential decrease in profits. Any such effect is reflected in Illumina's prices, sales, and profits outside of the U.S. and can, therefore, be monetized. Accordingly, Illumina has not proven irreparable harm necessary for the entry of an injunction.

III. THE BALANCE OF HARDSHIPS WEIGHS IN DEFENDANTS' FAVOR

Illumina essentially ignores the traditional factors used to weigh the hardships between the parties and instead makes several inconsistent arguments that put a thumb on the scale in its favor. When balancing the hardships between the parties, the Court weighs the parties' sizes, products, and revenue sources, as well as the availability of a non-infringing alternative. *Bio-Rad Lab'ys, Inc. v. 10X Genomics Inc.*, 967 F.3d 1353, 1378-79 (Fed. Cir. 2020); *Conceptus, Inc. v. Hologic, Inc.*, No. C 09-02280 WHA, 2012 WL 44064, at *3 (N.D. Cal. Jan. 9, 2012). In addition, courts have considered whether the asserted patents are set to expire close in time to when an injunction would issue. *See, e.g., Humanscale Corp. v. CompX Int'l Inc.*, No. 3:09-CV-86, 2010 WL 1779963, at *4 (E.D. Va. Apr. 29, 2010) **(**denying permanent injunction and noting "the balance of the hardships tips in favor of [the accused infringer] here because of the short life left on the [asserted] Patents"); *Dow Chem. Co. v. Nova Chemicals Corp. (Canada)*, No. 05-737-JJF, 2010 WL 3083023, at *1 (D. Del. July 30, 2010) (denying permanent injunction where patents have slightly more than a year until they expire).

Here, Illumina has had a dominant position in the NGS market in the U.S. for a decade and repeatedly referred to itself at trial as the "gold standard" in sequencing. *See, e.g.*, Tr. 233:1-11. Illumina's monopolistic share of the NGS market in the U.S. is more than 90%. Dkt. 58-17 (FTC Complaint) ¶¶ 1, 34, 51. In 2020, Illumina reported sequencing-based revenues of $2.5 billion, and a total revenue of $3.2 billion. *See* Kearl Ex. 2 at 60. In comparison, CGI has not yet

introduced its sequencers in the U.S. market. *See* Tr. 689:21-690:2. In 2019, CGI estimated its *global* CoolMPS revenues for the first year after a release would be approximately $25 million. *See* TX943; Tr. 334:4-7. Thus, considering the size, products, and revenue sources, the balance of the hardships favors CGI as the smaller, new market entrant.

A. CGI Will Suffer Substantial Hardship If a Permanent Injunction Issues

The burden of a permanent injunction preventing CGI from introducing its innovative CoolMPS products in the United States is especially high given the limited amount of time remaining before the asserted patents expire. Of the three patents asserted against CoolMPS, only the '973 patent remains: the Court granted summary judgment of non-infringement of the '025 patent (Dkt. 469) and the jury found that the '444 patent was invalid (Dkt. 594). The '973 patent expires on August 23, 2022. Given the short time between when a permanent injunction would issue and the expiration of the asserted patents (less than six months), the balance of hardships weighs in favor of CGI.

In addition, the fact that CGI's product is the best of the commercially acceptable alternatives weighs against entering a permanent injunction in this case. *Cf. Bio-Rad Lab'ys, Inc. v. 10X Genomics Inc.*, 967 F.3d 1353, 1379 (Fed. Cir. 2020) (holding it was abuse of discretion to enjoin two of five products where there were no non-infringing alternatives for those two).

Illumina's attempt to show "CoolMPS is neither mature, nor commercially viable" or that CGI has "limited . . . interest . . . in that technology" as part of the balancing calculus must fail. Dkt. 627 at 13. Illumina filed its motion for preliminary injunction because CGI announced a commercial launch pursuant to the Court's 60 day notice provision. Dkt. 11 at 1-2. CGI certainly does have an interest in selling its CoolMPS product or it would not have made a launch announcement. The evaluation by independent third parties showing that CoolMPS performs better than Illumina's platform also shows the technology is viable. *See* Metzker Decl. ¶¶ 8-35; Metzker Decl. Ex. 1 (Zhang); Metzker Decl. Ex. 2 (Zhang Supplemental Figure 9). Instead of providing evidence of the factors considered in balancing the hardships, Illumina claims that "courts need not balance hardship when defendant's conduct is willful," arguing that a finding of willfulness is sufficient to tip the balance in its favor. That is not the law. In the first case

Illumina cites, *Cognex Corp. v. Microscan Sys., Inc.*, No. 13-CV-2027 JSR, 2014 WL 2989975, at *2 (S.D.N.Y. June 30, 2014), the Court noted that "such a conclusion is not compelled by any Federal Circuit precedent cited by plaintiffs." In *Windsurfing Int'l Inc. v. AMF, Inc.*, 782 F.2d 995, 1003 (Fed. Cir. 1986), the Court simply reversed and remanded because the denial of injunctive relief was based on insufficient reasoning. *United States v. Marine Shale Processors*, 81 F.3d 1329, 1358 (5th Cir. 1996), an out-of-circuit case involving violation of environmental statutes, was decided before *eBay*, which held that a plaintiff must demonstrate "that, considering the balance of hardships between the plaintiff and defendant, a remedy in equity is warranted." *Nichia Corp. v. Everlight Americas, Inc.*, 855 F.3d 1328, 1341 (Fed. Cir. 2017).

Illumina also attempts to impugn CGI's previous estimates of the effects of a preliminary injunction on its business. *See* Dkt. 627 at 14. It attempts to question this credibility with a single line of testimony from Dr. Sophie Liu, a business development employee without human resources oversight. The witness testified, "I don't know how to answer your question," and then stated that she was not aware of a "company announcement" about layoffs. *Id.* at 14-15 (quoting Dkt. 619-6 at 53:25-54:8). Yet, Illumina offered evidence at trial that Illumina's patents would force CGI to move operations out of the United States. *See* Tr. 654:6-655:2; PDX-3.54. The fact that one business development employee does not know the employment status of everyone who works at CGI's San Jose facility does not show any inconsistency. Moreover, Dr. Drmanac, the CSO of CGI, testified about layoffs as a result of the preliminary injunction. *See* Naravage Decl. Ex. 3 (R. Drmanac Dep. Tr.) at 582:17-23. Illumina also argues that "the self-inflicted consequences of BGI's willful infringement are irrelevant to the balance of hardships." *See* Dkt. 627 at 15. The two cases Illumina cites in support of this proposition—*i4i Ltd. Partnership v. Microsoft Corp.*, 598 F.3d 831, 863 (Fed. Cir. 2010), and *PCT International Inc. v. Holland Electronics LLC*, No. CV-12-01797-PHX-JAT, 2015 WL 5210628, at *26 (D. Ariz. Sept. 8, 2015)—do not support that claim. The cases merely hold that the expenses incurred in creating the infringing products and the costs of creating a design-around are excluded from the balance of the hardships. Here, CGI is not relying on sunk development costs to show that it would experience hardship if a permanent injunction were to issue. Given the parties' sizes, products,

and revenue sources, the August 2022 expiration of the '973 patent, the balance of hardships weighs against issuing an injunction.

B. Illumina Will Suffer Minimal, If Any, Hardship Absent an Injunction

As discussed above, Illumina has enjoyed first-mover advantage and has spent more than a decade dominating the sequencing industry in the U.S. *See supra* Part II. Moreover, Illumina itself has argued that "sequencing customers tend to show significant loyalty to their initial supplier and are reluctant to change sequencing instruments once they become accustomed to them." Dkt. 11 at 22. Indeed, Illumina's former Chief Commercial Officer Mark Van Oene stated, "Purchasing an NGS sequencer is a significant investment for the customer . . . . Once a user becomes trained and familiar with a particular supplier's instruments and related workflows, they are less likely to switch to another supplier's instruments." Dkt. 10-4 ¶ 32. The potential hardship of competing for customers in the U.S. who would even be inclined to switch from an Illumina sequencer to a CGI sequencer before the '973 patent expires in August 2022 is minimal.

Illumina also states that "[t]he trial evidence confirmed that BGI benchmarks its products against Illumina's," attempting to show that competition with CGI's products would be harmful. Dkt. 627 at 14. But that CGI—as well as the other players in the market—performs the common task of benchmarking against other products does not prove any particular hardship to Illumina. Tr. *649:7-10*; *id.* at *268:11-20*. Illumina's allegations of "copying" as presenting some particular hardship to Illumina are similarly misplaced. Moreover, as an initial matter and as discussed in Defendants' Renewed Motion for Judgment as a Matter of Law, Illumina did not present any evidence that CGI copied any Illumina technology, let alone the purported inventions of the asserted patents. *See* Dkt. 622 at 16-17.

Finally, Illumina argues broadly that it should not have to "compete against its own patent." Dkt. 627 at 14. But where, as here, "the patented invention is but a small component of the product the companies seek to produce . . . legal damages may well be sufficient to compensate for the infringement." *eBay*, 547 U.S. at 396 (Kennedy, J., concurring). As discussed above (*see supra* Section I.E) and in Defendants' opposition to Illumina's JMOL, the sequencing products in this case involve a multitude of components and inventions and are not like the simple

windshield wiper blades at issue in *Robert Bosch LLC v. Pylon Manufacturing Corp.*, 659 F.3d 1142, 1145 (Fed. Cir. 2011), cited by Illumina. The balance of hardships in this case is also unlike *Apple Inc. v. Samsung Electronics Co.*, 809 F.3d 633, 646 (Fed. Cir. 2015), as in that case the accused infringer had a design-around ready to launch.

IV. THE PUBLIC INTEREST WEIGHS HEAVILY AGAINST AN INJUNCTION

Fast and highly accurate sequencing is one of the most important tools that can be used today in the discovery and treatment of many major illnesses, including cancer. Metzker Decl. Ex. 6 (Salk) at 269. Other genetically-based diseases such as, cystic fibrosis, sickle cell anemia, Tay-Sachs, and phenylketonuria rely on fast and accurate sequencing. *Id.*; Metzker Decl. Ex. 5 (Ma) at 1; Naravage Decl. Ex. 4 (Shulman) at Abstract, 76. Moreover the discovery of as-yet unknown genetic links to disease require enormous amounts of sequencing capacity to find the proverbial needle in a haystack. Metzker Decl. Ex. 6 (Salk) at 269.

Fast and highly accurate sequencing is also necessary to perform reliable "liquid biopsies" to identify if cancer cells are still present after treatment by detecting the very minute presence of DNA from cancer cells in circulating blood instead of performing a surgical intervention and taking physical biopsy samples that are stained and examined under a microscope. *Id.* at 278-79; Metzker Decl. Ex. 5 (Ma) at 1. Fast and highly accurate sequencing are also critical to advanced forms of personalized medicine where the determination of whether to a particular medical treatment is based on certain genetic markers in a patient. *See* Metzker Decl. Ex. 9 (Stenger). A sequencing mistake in this application can, for example, result in a drug being prescribed that will cause a tumor instead of alleviate it. *Id.* Fast and highly accurate sequencing is also important for identifying rapidly mutating pathogens such as the Sars-2 virus responsible for Covid.

An injunction preventing the sale of CoolMPS in the United States would harm the public interest by depriving the public of a more accurate and less expensive sequencing technology than Illumina's, which can be used to advance all the important applications discussed above. Metzker Decl. ¶ 7. A recent independent third-party study (Metzker Decl. Ex. 1 (Zhang)) evaluated multiple sequencing platforms in relation to difficult to sequence regions of the human immune system. These regions are complex and challenging for sequencing, for example, because they

involve complex loci with large regions of duplication and high copy number repeats. *Id.* at Abstract. The results that Zhang reported demonstrate that CoolMPS is nearly 5 times more accurate than Illumina (a per base error rate of 1/1764 for CoolMPS, compared with 1/360 for Illumina). *Id.* at 20 (legend for Supplemental Figure 9); Metzker Decl. Ex. 2 (Zhang Supplemental Figure 9); Metzker Decl. ¶ 27. This accuracy translates into, for example, real cancer mutations that would be identified in a liquid biopsy using CoolMPS, in lieu of false positive identified by Illumina because of its higher error rate. Metzker Decl. ¶ 28. As described below, this would be devastating to a cancer patient who would receive the wrong therapy based on false positive identifications. Metzker Decl. Ex. 9 (Stenger) at 6.

Improved sequencing accuracy could prove the difference between life and death. In one treatment for metastatic melanoma, the presence of a particular mutation indicates that the drug will be beneficial and should be administered. *Id.* But, if that mutation is misidentified and the drug is administered to someone who does not have the mutation, the drug will induce tumor formation. *Id.* The high error rates that exist with the Illumina system would make it unreliable for use in this situation as a result of the dire consequences that could result. Metzker Decl. ¶¶ 29-35.

A number of features, which have nothing to do with the asserted patents and distinguish CoolMPS from Illumina's technology, make CoolMPS's greater accuracy possible. First, Illumina uses the polymerase chain reaction (PCR) to make many copies of the templates on its arrays. PCR has a known error rate of on the order of $0.4x10^{-4}$ to $0.7x10^{-4}$ when making copies. Metzker Decl. Ex. 5 (Ma) at 5-6; Metzker Decl. ¶ 13. In other words, every time 10,000 bases are copied, there will be at least one error. Metzker Decl. ¶ 13. So each time a copy is made in the Illumina system to allow the thousands of copies that are necessary to allow for sufficient light to be produced to identify a base, many errors are introduced and those errors show up as sequencing errors. Metzker Decl. Ex. 6 (Salk) at 271.

CoolMPS, on the other hand, uses a significantly more accurate replication technique known as rolling circle amplification. Metzker Decl. ¶ 15. Unlike the Illumina system that propagates errors through copying, rolling circle relies on the original template so that errors are

not propagated through subsequent cycles. Metzker Decl. Ex. 4 (Drmanac 2020) at 3. This translates into a five-fold lower error rate, as Zhang and colleagues described when they compared the CoolMPS system with the Illumina system. Metzker Decl. Ex. 1 (Zhang) at 20 (legend for Supplemental Figure 9); Metzker Decl. Ex. 2 (Zhang Supplemental Figure 9).

Another Illumina unpatented feature, which is unique to CoolMPS and provides significant benefits in sequencing accuracy and read length in the CoolMPS technology when compared to the Illumina technology, is CoolMPS's use of the novel antibodies created for its system. Illumina uses decades-old technology in which each nucleotide in the Illumina systems is labeled, by being chemically linked to a fluorescent molecule via a cleavable linker. Metzker Decl. ¶ 18. When the linker is cleaved after identification of an incorporated base, a molecular "scar" is left on the base that interferes with subsequent nucleotide incorporations and read length. Metzker Decl. ¶¶ 18-21. CoolMPS uses base- and block-specific fluorescently labeled antibodies, which are added after incorporation of an unlabeled, blocked nucleotide to detect that nucleotide. *Id.* When the antibodies are removed after detection, the natural nucleotide is left without a scar. Metzker Decl. ¶ 21. This is important because without the scar, the polymerase can incorporate the modified nucleotides faster, which speeds up the throughput of the SBS method. *Id.*; Metzker Decl. Ex. 4 (Drmanac 2020) at 2.

The presence of the scar in the old Illumina technology is significant and has a number of drawbacks. Illumina's expert Dr. Romesberg published an article detailing many of them years before he was hired for this case. Metzker Decl. Ex. 8 (Leconte) at 2; Metzker Decl. Ex. 7 (Romesberg Dep Tr.) at 256:12-25, 259:18-266:13. First, it slows down how quickly the polymerase will incorporate nucleotides, slowing down the entire sequencing process. *See* Metzker Decl. Ex. 8 (Leconte) at 2. Second, it will cause the process to be even less accurate by decreasing the read length. *Id.* at 2. "Read length" is the number of continuous bases that can be read. Metzker Decl. ¶ 19. When the read length becomes shorter in Illumina-type SBS sequencing, then multiple shorter reads need to be put together to identify continuous stretches of bases. In a system like Illumina's this leads to decreased accuracy in variant calling. *Id.* ¶ 18.

The use of antibodies in CoolMPS, which do not create scars, also has other benefits. The antibodies allow multiple fluorescent molecules to be attached to each antibody and to be associated with each nucleotide. *Id.* ¶ 22. Associating multiple fluorescent molecules with each nucleotide provides a better signal to noise ratio and improved accuracy. *Id.*

In addition to all the significant technical benefits, CoolMPS is substantially less expensive for researchers than the Illumina system, and this has nothing to do with "copying" of Illumina's patented technology. CoolMPS is less expensive for several reasons, including that the nucleotides are less expensive to synthesize because they do not require a linker and the attachment of the fluorescent dye, and the brighter signals from antibodies carrying multiple dye molecules allow for more efficient imaging with simpler imagers. Metzker Decl. Ex. 4 (Drmanac 2020) at 2, 15, tbl. 2. The cost savings would translate into the NIH being able to fund approximately ***3,400*** more basic NIH research grants per year that depend on sequencing if researches were able to utilize the CGI technology as opposed to Illumina's. Metzker Decl. ¶¶ 36-44. There is little doubt that at least some of these 3,400 research studies would lead to significant medical breakthroughs that would benefit society. Given the ubiquitous nature of sequencing in academic research, the high cost of Illumina sequencing thus operates as a tax on this academic research. *See id.*

This case is one where the defendants' technology is superior to the patented technology and its introduction would advance the public good by advancing the health and welfare of society. In cases where technologies have medical applications for significant diseases, courts have recognized that an injunction is not in the public benefit. *See, e.g., Cordis Corp. v. Bos. Sci. Corp.*, 99 F. App'x 928, 935 (Fed. Cir. 2004) ("[F]or good reason, courts have refused to permanently enjoin activities [where doing so] would injure the public health."); *Conceptus, Inc. v. Hologic, Inc.*, No. C 09-02280 WHA, 2012 WL 44064, at *3 (N.D. Cal. Jan. 9, 2012) (denying injunctive relief where "[p]ublic health has benefitted, and will continue to benefit, from having a choice of products").

V. ILLUMINA'S MOTION FOR A PERMANENT INJUNCTION SHOULD BE DENIED BECAUSE ILLUMINA'S CONDUCT GIVES IT UNCLEAN HANDS

While Illumina has cast aspersions on Defendants' conduct, Illumina's strategy to misconstrue the evidence to gain an advantage at trial is the type of tactic that should prevent the entry of an injunction. That is especially true given that there is only a single patent—out of the three originally asserted—that stand between the public and CGI's superior CoolMPS technology. *See, e.g., Precision Instrument Manufacturing Co. v. Automotive Maintenance Machinery Co.*, 324 U.S. 806, 814 (1945) ("[H]e who comes into equity must come with clean hands") (internal quotation marks omitted); *Gilead Sciences, Inc. v. Merck & Co., Inc.*, 888 F.3d 1231, 1239 (Fed. Cir. 2018) (upholding district court's reversal of a $200M damages award on the basis that patentee could not enforce two patents because pre-litigation business misconduct and litigation misconduct gave it unclean hands). Misconduct that can support a finding of unclean hands includes presenting intentionally false testimony at trial. *See id*. at 1246-47. Where multiple patents are at issue, misconduct findings that are applicable to a subset of the patents can taint the remaining patents. *See id*. at 1248.

Illumina's claim to have not known about and copied Zavgorodny and Kovacs before filing the patent applications at issue here, despite the evidence to the contrary, establishes unclean hands even if insufficient to prove inequitable conduct. *See, e.g.*, Dkts. 572-2, 572-3, 572-4, 572-5, 572-6, 572-7, 572-8, 572-13; *see also* Dkt. 572-4 *(Brennan) at 224:5-19* (Dr. Brennan testifying that it was not reasonable to think that "one person in the group that was working on the same thing as other people would have known where a particular synthesis had originated and the others wouldn't know").

A. Misrepresentations About the Prior '537 Patent Proceedings

Throughout the trial, Illumina relied on prior decisions involving only one of the asserted patents, while implying that multiple patents were involved and that those prior decisions showed all its patents were valid. *See* Case No. 3:19-cv-3770, Dkt. 54 ¶¶ 217-89; Dkt. 622 at 14-15; Dkt. 623 at 10. Not only was it improper for Illumina to imply that the prior decisions involved more than a single asserted patent, the '537 patent, but the prior decisions rested upon theories which

Illumina knew to be scientifically unsound and which Illumina did not even try to address at trial. *See, e.g.*, *Rixon, Inc. v. Racal-Milgo, Inc.*, 551 F. Supp. 163, 179 (D. Del. 1982). Illumina's expert agreed with Dr. Drmanac that previous decisions that relied on arguments about incomplete cleavage were actually wrong as the reference was discussing yield after purification and not cleavage. Tr. 581:21-584:14; *id.* at *1050:9-1052:4*.

Illumina did not even attempt to resuscitate its prior IPR claims that the Boyer article on AZT proved that azidomethyl would not incorporate azidomethyl after Dr. Drmanac showed the fallacy of this argument. Tr. 585:9-587:18. Illumina also did not try to resuscitate its claim in the IPR proceedings that the Stanton reference showed that TCEP would harm DNA after Drs. Drmanac and Metzker showed why this claim had no scientific basis. Tr. 588:14-590:15; *id.* at 850:21-851:14.

The record is also rife with other claims that Illumina made to save its patents that have no basis. Dr. Romesberg testified on direct that the Parce reference did not disclose removing the blocking group with TCEP though on cross, he had to read the portion of Parce that said the exact opposite. Tr. *1045:7-11*, *1046:6-7*, *1046:13-15*, *1108:3-7*; JTX34 claim 11. During the case, Illumina told this Court that Zavgorodny "never discloses using azidomethyl groups in an antiviral compound, and instead it affirms that azidomethyl groups are used as protecting groups that are removed to prepare ***nucleosides***." Dkt. 76 at 13. That is not a plausible argument to make given the first sentence of Zavgorodny states that the azidomethyl compound can be a potential antiviral and the portion of Zavgorodny that Illumina allegedly quotes says azidomethyl "can be removed under specific and mild conditions . . . or used to make other derivatives or analogues of nucleosides." JTX7.01, 04; *see also* Tr. 799:8-12; 805:13-808:12; 809:21-810:3; 816:14-817:16; 822:3-7.

Numerous other misrepresentations that proved to be untrue are detailed in CGI's motion for JMOL on willfulness and validity and its opposition to Illumina's JMOL and motion for enhanced damages.[7]

B. Misrepresentations About the '973 Disclosure

Illumina made a number of representations about the '973 patent, which were particularly improper as lacking a scientific basis, to save the '973 from invalidity based on written description. First, Dr. Romesberg testified incorrectly that the '973 patent shows a working example of SBS. Tr. *1068:21-1071:9*. It does not. As Dr. Metzker testified, these are simply incorporation experiments that are intended to serve as proxies for real sequencing. Metzker Decl. ¶ 56; Tr. 857:11-859:20. But, even in that regard they fail. The incorporation experiments were rigged to show incorporation in a setting that is incompatible with sequencing. As described in the section on public benefit, accuracy is a key need for sequencing. This relies on polymerase accurately incorporating a nucleotide that is complementary to the next nucleotide in the template. But, Illumina increased the concentration of one chemical, Mn, to such a high level in the experiment Dr. Romesberg represented as a sequencing experiment, that the polymerase loses any fidelity and will easily incorporate any base regardless of whether it is even complementary. Mezker Decl. ¶¶ 60-75. Such conditions are incompatible with sequencing and cannot not even be used as proxies for real sequencing. They were rigged experiments in an attempt to show something that was akin to sequencing but was not. *Id.*; *see also* Dkt. 571-15 *(Brennan) at 128:12-129:8*. In fact, Illumina admitted as such in a later application where it explained that the polymerase used in what is reported in the experiments shown in Fig. 6 of the '973 does not work.

[7] *Compare, e.g.*, Tr. *1035:10-15* (Dr. Romesberg testifying, " . . . don't get confused ***that, you know, 3 prime block nucleotides are the only antivirals out there. They're not. In fact, there aren't any***, and I'll mention that in a second.") *and* Tr. 1212:22-1213:6 (Illumina's counsel arguing, "Nobody's ever done what they're telling you the average worker or the ordinary worker following the conventional wisdom would have done in the '90s and didn't. ***No one's ever done it, ever. Not just azido blocking. Any 3 prime block for the azido antivirals***.") *with* Tr. *1102:25-1103:2* ("My only statement was ***there are no 3 prime O blocked antivirals***. That's the only thing I said, and that's the only thing I meant to imply.").

Mezker Decl. ¶¶ 67-68; Mezker Decl. Ex. 17 ('910 patent) col. 16:7-9, 17:9-12, 17:19-20, 26:57-61, figs. 1, 2, 4, and 5.

Illumina also improperly argued to the jury incorrectly that the asserted patents describe using unlabeled nucleotides through the use of antibodies, insinuating that these antibodies are just like those used in CoolMPS.[8] Tr. 1061:12-17; 1225:6. As set out in Defendants' JMOL (Dkt. 622 at 11-12), the antibodies discussed in the asserted patents (*e.g.*, JTX 38 col. 15:52-60) are a part of a multi-component label system in which labeled nucleotides are incorporated. There is no factual basis to reasonably claim that this disclosure has anything to do with unlabeled nucleotides or is anything like CoolMPS. *See* Metzker Dec. ¶¶ 46-54.

Illumina also misleadingly presented Dr. Balasubramanian's testimony at a time when CGI could no longer respond, in a way that claimed he thought of using unlabeled nucleotides ***at the time of the claimed invention***, when the complete testimony showed that he could not even remember when the purported "zero labeling" discussion occurred. Dkt. 623 at 6-7.

Given that the '973 patent is the only one on which an injunction can be based against CoolMPS, Illumina's actions should not be rewarded with a grant of equitable relief.

VI. ANY INJUNCTION MUST BE CLEAR IN SCOPE AND NARROWLY TAILORED

For the reasons detailed above, Illumina has not satisfied the four-factor *eBay* test required for a grant of injunctive relief. However, if the Court considers an injunction appropriate, it should be narrowly tailored and unambiguous in scope. *See Gemveto Jewelry Co. v. Jeff Cooper Inc.*, 800 F.2d 256, 259 (Fed. Cir. 1986) ("[I]njunctive relief should be narrowly tailored . . . ."); *Int'l Longshoremen's Ass'n, Loc. 1291 v. Philadelphia Marine Trade Ass'n*, 389 U.S. 64, 76 (1967) (an injunction order must be clear and unambiguous concerning "what the court intends to require and what it meant to forbid"). Any injunction should not preclude Defendants from offering the Accused Products for sale where such sales will occur after the expiration of the patents in suit, and should allow Defendants to immediately commence promoting, advertising,

[8] CoolMPS uses antibodies but in a significantly different way, which is unlabeled, as explained in Defendants' JMOL. Dkt. 622 at 11-12.

and marketing the Accused Products for sale after the patents expire. Further, any injunction should not include research and development ("R&D") activities, as the jury's verdict accounts for an R&D license through the expiration of the patents.

Pursuant to 35 U.S.C. 271(i), an "offer for sale" or an "offer to sell" by a person other than the patentee "is that in which the sale will occur before the expiration of the term of the patent." By the plain language of this provision, offers for sale in which the sale will occur *after* the expiration of the term of the patent do not constitute patent infringement under 35 U.S.C. 271. Courts have consistently interpreted section 271(i) "to allow prospective competitors to begin to market infringing products near the expiration of a patent, provided that any offers for sale specify that the product will not be available until after expiration of the patent." *Lifting Techs., Inc. v. Dixon Indus., Inc.*, No. CV-96-68-M-CCL, 1996 WL 653391, at *3 (D. Mont. Aug. 27, 1996); *see also Rotec Indus., Inc. v. Mitsubishi Corp.*, 215 F.3d 1246, 1260 (Fed. Cir. 2000) (Newman, J., concurring) ("It is clear, however, that an infringing offer to sell, § 271(a), must be of an item that would infringe the United States patent upon the intended sale, § 271(i)."); *FMC Techs., Inc. v. OneSubsea IP UK Ltd.*, No. CV H-18-2459, 2018 WL 5014147, at *3 (S.D. Tex. Oct. 16, 2018) ("[A]n offer to sell, in order to be an infringement, must be an offer contemplating that the sale will occur before the expiration of the term of the patent."). Accordingly, to the extent that any injunction entered enjoins Defendants from "offering for sale" any Accused Products in the United States, such a provision must be read in accordance with 35 U.S.C. 271(i). The only remaining patent asserted against Defendants' CoolMPS products is the '973 patent, which expires in August 2022. Defendants request that any injunction makes clear that Defendants are entitled to offer the Accused Products for sale where such sales will take place after patent expiration.

Furthermore, the preliminary injunction entered in this case precludes Defendants from "promoting, advertising, [and] marketing" the Accused Sequencers and Reagents "in the United States so as to induce or contribute to others' infringing use of the Accused Sequencers and Accused Sequencing Reagents." Dkt. 183. Any promoting, advertising, or marketing activities directed to sales or uses that will occur after expiration of the patents-in-suit fall outside the scope of the preliminary injunction. *Rotec Indus.*, 215 F.3d at 1260. Defendants request that any

permanent injunction entered expressly permit such promoting, advertising, and marketing activities.

Finally, any injunction should carve out R&D activities, as the jury's verdict accounts for a license for such activities through the lifetime of the patents. Federal Circuit precedent is clear that a jury can award lump-sum damages through the life of the patent. *Summit 6, LLC v. Samsung Elecs. Co.*, 802 F.3d 1283, 1300–01 (Fed. Cir. 2015). Here, the Court should find that the jury's $8 million award for R&D compensates Illumina for Defendants' R&D activities through the life of the patents-in-suit, and any injunction should not preclude Defendants' from conducting R&D in the U.S. As discussed in Defendants' JMOL the jury's damages award is not supported by substantial evidence. Dkt. 622 at 20-24. To the extent the Court upholds the $8 million award, it is sufficient for an R&D license through the life of the asserted patents in light of Dr. Kearl's testimony that, after correcting certain errors in Dr. Prowse's model (namely by discounting to 2014 value and applying a bargaining split), a reasonable royalty through June 2020 would not exceed $6.3 million. Tr. at 976:14-18. Such a finding may align with what the jury actually did. The jury clearly rejected Dr. Prowse's damages number of $25.4 million. It can be inferred that the jury also rejected his opinion on the duration of the license. Dr. Kearl testified at trial that in 2014, CGI would not have agreed to a license for six of the nine remaining years on the life of the patents. Tr. at 965:16-966:9. The $8 million number is nearly identical to Dr. Kearl's $6.3 million correction to Dr. Prowse's model (for a royalty through June 2020) if projected through June 2023.[9]

VII. CONCLUSION

For the foregoing reasons, Defendants respectfully requests that the Court deny Illumina's request for entry of a permanent injunction.

[9] Dr. Kearl opined that if he projected Dr. Prowse's model through June 2023, discounted to 2014 value, and applied a bargaining split, the calculated reasonable royalty would be $7.65 million. *See* Naravage Decl. Ex. 5, Kearl Rebuttal Rep. Ex. 4.1 Scenario B.

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Respectfully submitted,

QUINN EMANUEL URQUHART & SULLIVAN, LLP

By */s/ David Bilsker*
David Bilsker
Attorneys for Defendants BGI Genomics Co., Ltd., BGI Americas Corp., MGI Tech Co., Ltd., MGI Americas Inc., and Complete Genomics, Inc.